

09C0

04-18-01

OIPE

#2

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/813,408

DATE: 04/05/2001
 TIME: 08:07:39

Input Set : A:\ES.txt
 Output Set: N:\CRF3\04052001\I813408.raw

ENTERED

3 <110> APPLICANT: Delagrave, Simon
 4 Marrs, Barry
 6 <120> TITLE OF INVENTION: Methods For The Synthesis Of Polynucleotides And Combinatorial
 Libraries
 7 Of Polynucleotides
 9 <130> FILE REFERENCE: HER0041
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/813,408
 C--> 11 <141> CURRENT FILING DATE: 2001-03-21
 11 <160> NUMBER OF SEQ ID NOS: 85
 13 <170> SOFTWARE: PatentIn version 3.0
 15 <210> SEQ ID NO: 1
 16 <211> LENGTH: 377
 17 <212> TYPE: PRT
 18 <213> ORGANISM: Bacillus alcalophilus
 20 <400> SEQUENCE: 1
 22 Met Lys Lys Pro Leu Gly Lys Ile Val Ala Ser Thr Ala Leu Leu Ile
 23 1 5 10 15
 25 Ser Val Ala Phe Ser Ser Ser Ile Ala Ser Ala Ala Glu Glu Ala Lys
 26 20 25 30
 28 Glu Lys Tyr Leu Ile Gly Phe Asn Glu Gln Glu Ala Val Ser Glu Phe
 29 35 40 45
 31 Val Glu Ala Asn Asp Glu Val Ala Ile Leu Ser Glu Glu Glu Val
 32 50 55 60
 34 Glu Ile Glu Leu Leu His Glu Phe Glu Thr Ile Pro Val Leu Ser Val
 35 65 70 75 80
 37 Glu Leu Ser Pro Glu Asp Val Asp Ala Leu Glu Leu Asp Pro Ala Ile
 38 85 90 95
 40 Ser Tyr Ile Glu Glu Asp Ala Glu Val Thr Thr Met Ala Gln Ser Val
 41 100 105 110
 43 Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly
 44 115 120 125
 46 Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
 47 130 135 140
 49 Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro Gly
 50 145 150 155 160
 52 Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val Ala Gly
 53 165 170 175
 55 Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
 56 180 185 190
 58 Asn Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser Gly
 59 195 200 205
 61 Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala Gly Asn Asn Gly
 62 210 215 220
 64 Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr
 65 225 230 235 240
 67 Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val Val
 68 245 250 255
 70 Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/813,408

DATE: 04/05/2001

TIME: 08:07:39

Input Set : A:\ES.txt

Output Set: N:\CRF3\04052001\I813408.raw

```

71          260          265          270
73 Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg
74          275          280          285
76 Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro Gly
77          290          295          300
79 Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn
80 305          310          315          320
82 Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val
83          325          330          335
85 Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile Arg Asn His Leu
86          340          345          350
88 Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly
89          355          360          365
91 Leu Val Asn Ala Glu Ala Ala Thr Arg
92          370          375
94 <210> SEQ ID NO: 2
95 <211> LENGTH: 271
96 <212> TYPE: PRT
97 <213> ORGANISM: Bacillus lentus
99 <400> SEQUENCE: 2
101 Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
102 1          5          10          15
104 His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
105          20          25          30
107 Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
108          35          40          45
110 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
111          50          55          60
113 His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
114 65          70          75          80
116 Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
117          85          90          95
119 Ser Gly Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu
120          100          105          110
122 Trp Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser
123          115          120          125
125 Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser
126          130          135          140
128 Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser
129 145          150          155          160
131 Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr
132          165          170          175
134 Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu
135          180          185          190
137 Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser
138          195          200          205
140 Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala
141          210          215          220
143 Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/813,408

DATE: 04/05/2001
 TIME: 08:07:39

Input Set : A:\ES.txt

Output Set: N:\CRF3\04052001\I813408.raw

```

144 225          230          235          240
146 Gln Ile Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr
147          245          250          255
149 Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
150          260          265          270
152 <210> SEQ ID NO: 3
153 <211> LENGTH: 269
154 <212> TYPE: PRT
155 <213> ORGANISM: Bacillus sp. KSM-K16
157 <400> SEQUENCE: 3
159 Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
160 1          5          10          15
162 His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
163          20          25          30
165 Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
166          35          40          45
168 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
169          50          55          60
171 His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
172 65          70          75          80
174 Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
175          85          90          95
177 Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
178          100         105         110
180 Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser
181          115         120         125
183 Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
184          130         135         140
186 Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser
187 145         150         155         160
189 Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln
190          165         170         175
192 Asn Asn Asn Arg Ala Ser Phe Gln Tyr Gly Ala Gly Leu Asp Ile Val
193          180         185         190
195 Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala
196          195         200         205
198 Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Val Ala
199          210         215         220
201 Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
202 225          230          235          240
204 Arg Asn His Leu Lys Asn Thr Ala Thr Gly Leu Gly Asn Thr Asn Leu
205          245         250         255
207 Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
208          260         265
210 <210> SEQ ID NO: 4
211 <211> LENGTH: 269
212 <212> TYPE: PRT
213 <213> ORGANISM: Bacillus lentus
215 <220> FEATURE:

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/813,408

DATE: 04/05/2001

TIME: 08:07:39

Input Set : A:\ES.txt

Output Set: N:\CRF3\04052001\I813408.raw

216 <221> NAME/KEY: UNSURE
 217 <222> LOCATION: (215)..(215)
 218 <223> OTHER INFORMATION: X is unknown
 221 <400> SEQUENCE: 4
 223 Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
 224 1 5 10 15
 226 His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
 227 20 25 30
 229 Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
 230 35 40 45
 232 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
 233 50 55 60
 235 His Val Ala Gly Thr Ile Ala Ala Leu Asp Asn Ser Ile Gly Val Leu
 236 65 70 75 80
 238 Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
 239 85 90 95
 241 Ser Gly Ser Gly Ala Ile Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
 242 100 105 110
 244 Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser
 245 115 120 125
 247 Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
 248 130 135 140
 250 Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser
 251 145 150 155 160
 253 Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln
 254 165 170 175
 256 Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
 257 180 185 190
 259 Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr
 260 195 200 205
 262 Ala Ser Leu Asn Gly Thr Xaa Met Ala Thr Pro His Val Ala Gly Ala
 263 210 215 220
 265 Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
 266 225 230 235 240
 268 Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu
 269 245 250 255
 271 Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
 272 260 265
 274 <210> SEQ ID NO: 5
 275 <211> LENGTH: 269
 276 <212> TYPE: PRT
 277 <213> ORGANISM: Bacillus lentus
 279 <400> SEQUENCE: 5
 281 Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
 282 1 5 10 15
 284 His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
 285 20 25 30
 287 Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
 288 35 40 45

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/813,408

DATE: 04/05/2001

TIME: 08:07:39

Input Set : A:\ES.txt

Output Set: N:\CRF3\04052001\I813408.raw

```

290 Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
291      50      55      60
293 His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
294 65      70      75      80
296 Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
297      85      90      95
299 Asp Gly Arg Gly Ala Ile Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
300      100      105      110
302 Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser
303      115      120      125
305 Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
306      130      135      140
308 Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Ser Ser Ile Ser
309 145      150      155      160
311 Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln
312      165      170      175
314 Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
315      180      185      190
317 Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr
318      195      200      205
320 Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala
321      210      215      220
323 Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
324 225      230      235      240
326 Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu
327      245      250      255
329 Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
330      260      265
332 <210> SEQ ID NO: 6
333 <211> LENGTH: 379
334 <212> TYPE: PRT
335 <213> ORGANISM: Bacillus sp.
337 <400> SEQUENCE: 6
339 Met Asn Lys Lys Met Gly Lys Ile Val Ala Gly Thr Ala Leu Ile Ile
340 1      5      10      15
342 Ser Val Ala Phe Ser Ser Ser Ile Ala Gln Ala Ala Glu Glu Ala Lys
343      20      25      30
345 Glu Lys Tyr Leu Ile Gly Phe Lys Glu Gln Glu Val Met Ser Gln Phe
346      35      40      45
348 Val Asp Gln Ile Asp Gly Asp Glu Tyr Ser Ile Ser Ser Ser Gln Val
349      50      55      60
351 Glu Asp Val Glu Ile Asp Leu Leu His Glu Phe Asp Phe Ile Pro Val
352 65      70      75      80
354 Leu Ser Val Glu Leu Asp Pro Gln Asp Val Glu Ala Leu Glu Leu Asp
355      85      90      95
357 Pro Ala Ile Ser Tyr Ile Glu Glu Asp Ala Glu Val Thr Thr Met Gln
358      100      105      110
360 Thr Val Pro Trp Gly Ile Asn Arg Val Gln Ala Pro Ile Ala Gln Ser
361      115      120      125

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/813,408

DATE: 04/05/2001

TIME: 08:07:40

Input Set : A:\ES.txt

Output Set: N:\CRF3\04052001\I813408.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:262 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4